

Response to the Office Action Dated July 25, 2005  
Serial No. 10/779,291

### **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **LISTING OF CLAIMS**

1-2. (canceled)

3. (currently amended) ~~The on/off switching system as in Claim 38~~ An on/off switching system for at least one electronic ballast for at least one lamp, of at least one lighting fixture, said system comprising:

said at least one ballast having power electronics;

said system further having a remote switch function in said at least one ballast;

said remote switch function remotely located apart from said ballast;

said remote switch function operating with a low amount of control current and little power loss;

at least one connection connecting said remotely located switch to a ballast resident isolation circuit with associated interfacing electronics within said at least one ballast;

said at least one ballast providing high electrical isolation between said remote switch function and said ballast power electronics to each said lamp;

a plurality of lead wires connecting said remote switch function, a low current power source, a light emitting diode (LED) at an input of said isolation circuit; and,

wherein a current power source sufficient to operate external electronics is derived from said power input of said at least one ballast.

4. (currently amended) ~~The on/off switching system as in Claim 38~~ An on/off switching system for at least one electronic ballast for at least one lamp, of at least one lighting fixture, said system comprising:

said at least one ballast having power electronics;

said system further having a remote switch function in said at least one ballast;

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said remote switch function remotely located apart from said ballast;  
said remote switch function operating with a low amount of control current and little  
power loss;  
at least one connection connecting said remotely located switch to a ballast resident  
isolation circuit with associated interfacing electronics within said at least one ballast;  
said at least one ballast providing high electrical isolation between said remote switch  
function and said ballast power electronics to each said lamp;  
a plurality of lead wires connecting said remote switch function, a low current power  
source, a light emitting diode (LED) at an input of said isolation circuit; and,  
wherein a current power source sufficient to operate external electronics is supplied  
externally.

5-15. (canceled)

16. (currently amended) ~~The on/off switching system according to claim 1.~~ An on/off  
switching system for at least one electronic ballast for at least one lamp, of at least one lighting  
fixture, said system comprising said at least one ballast having power electronics, said system  
further having a remote switch function, said remote switch function remotely located apart from  
said ballast, said remote switch function operating with a low amount of control current and little  
power loss, said on/off switching system further comprising at least one connection connecting  
said remotely located switch function to a single ballast resident isolation circuit for providing  
both on/off and intensity control, said at least one ballast providing high electrical isolation  
between said remote switch function and said ballast power electronics to each said lamp;  
wherein said on/off switching system is applied to a blinking function used as an  
attraction in lighted advertising signs.

17-27. (canceled)

28. (previously presented) The on/off switching system as in Claim 41 wherein a current

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power source sufficient to operate external electronics is derived from said power input of said power electronics.

29. (previously presented) The on/off switching system as in Claim 41 wherein a current power source sufficient to operate external electronics is supplied externally.

30-35. (canceled)

36. (previously presented) An on/off switching function system applied with proportional light dimming control, proportional light dimming control system having as its interface the ~~system as in Claim 1~~, an on/off switching system for at least one electronic ballast for at least one lamp, of at least one lighting fixture, said system comprising said at least one ballast having power electronics, said system further having a remote switch function, said remote switch function remotely located apart from said ballast, said remote switch function operating with a low amount of control current and little power loss, said on/off switching system further comprising at least one connection connecting said remotely located switch function to a single ballast resident isolation circuit for providing both on/off and intensity control, said at least one ballast providing high electrical isolation between said remote switch function and said ballast power electronics to each said lamp;

said proportional light dimming control system comprising an electronic ballast having an optically isolated on/off function interfacing with remote circuitry providing pulse width modulation to said optically isolated interface control to cause proportional light dimming, said remote circuitry including a fixed frequency oscillator influenced by a pulse-width modulator controlled by a voltage setting, wherein said proportional pulses cause constant current to flow remotely through a light emitting diode in an optical isolator in said electronic ballast, a constant current driver insuring a predetermined proper current to said light emitting diode in compensation for variable cable lengths, wherein a phototransistor/switch of said optical isolator complies with a periodic "on" duty cycle set remotely and causes the power in said ballast circuitry to be applied to the lamp with variable intensity.

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37. (previously presented) ~~An on/off switching system applied to at least one electrical end-use appliance compatible with electronic on/off control as in Claim 22~~ An on/off switching function system for at least one electronically interfaceable end-use appliance device which functions through on/off control, said device having an on/off switch function, said system having power electronics, said system further having a remote switch function, said remote switch function remotely located apart from said device resident power electronics, said remote switch function operating with a low amount of control current and little power loss, said on/off switching system further comprising at least one connection connecting said remotely located switch function to a single isolation circuit with high electrical isolation to said power electronics, said power electronics providing electrical computability between said switch function and the operation of said device;

in which an optically isolating interface utilizes circuitry providing pulse width modulation to said optically isolated interface control to cause proportional on/off control, a remote circuitry including a fixed frequency oscillator influenced by a pulse-width modulator controlled by a voltage setting, wherein proportional pulses cause constant current to flow remotely through a light emitting diode in an optical isolator in power electronics, a constant current driver insuring a predetermined proper current to said light emitting diode in compensation for variable cable lengths, wherein a phototransistor/switch of said optical isolator complies with a periodic "on" duty cycle set remotely and causes the power in said circuitry to be applied to said end use appliance device with variable intensity, said proportional on/off control system influencing very low power remote control of power levied in various end-use appliances benefiting from proportional on/off control as a means for power modulation.

38-39. (canceled)

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40. (previously presented) An on/off switching system for at least one electronic ballast for at least one lamp, of at least one lighting fixture, said system comprising:

said at least one ballast having power electronics;

said system further having a remote switch function in said at least one ballast;

said remote switch function remotely located apart from said ballast;

said remote switch function operating with a low amount of control current and little power loss;

at least one connection connecting said remotely located switch to a ballast resident isolation circuit with associated interfacing electronics within said at least one ballast;

said at least one ballast providing high electrical isolation between said remote switch function and said ballast power electronics to each said lamp; and

said remote switch function is controlled to switch rapidly and with a proportional on time that is proportional to a controlled power level.

41. (currently amended) An on/off switching function system for at least one electronically interfaceable end-use appliance device which functions through on/off control, said device having an on/off switch function, said system having power electronics, said system further having a remote switch function, said remote switch function remotely located apart from said device resident power electronics, said remote switch function operating with a low amount of control current and little power loss, said on/off switching system further comprising at least one connection connecting said remotely located switch function to a isolation circuit with high electrical isolation to said power electronics, said power electronics providing electrical computability compatibility between said switch function and the operation of said device, and a plurality of lead wires connecting said remote switch, a low current power source and a light emitting diode (LED) at an input of said isolation circuit.

42. (previously presented) An on/off switching function system for at least one electronically interfaceable end-use appliance device which functions through on/off control, said

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device having an on/off switch function, said system having power electronics, said system further having a remote switch function, said remote switch function remotely located apart from said device resident power electronics, said remote switch function operating with a low amount of control current and little power loss, said on/off switching system further comprising at least one connection connecting said remotely located switch function to a isolation circuit with high electrical isolation to said power electronics, said connection being a modular phone connector with flat multi-conductor cable containing telephone wire as a plurality of lead wires, said power electronics providing electrical ~~computability~~ compatibility between said switch function and the operation of said device.

43. (canceled)